

smoking, pre-existing lung disease, prior chemotherapy or thoracic radiotherapy, renal dysfunction, and diabetes mellitus.<sup>11</sup> No references regarding risk factors for ILD with antiandrogenic drugs could be identified. In this patient, the common factors were age 60 years or older and smoking history.

In the previous report and our report of ILD with apalutamide, the patients were both Japanese.<sup>7</sup> Although apalutamide has only been on the market for a short time, all reports of apalutamide-induced ILD have been seen in Japanese patients. As has been reported in the previous cases of gefitinib-induced ILD in Japanese patients, racial differences in the incidence of apalutamide induced ILD are likely to become clearer as more cases are reported.<sup>11</sup>

## Author Contributions

Fumiaki Kirishima: Conceptualization; Data curation; Formal analysis; Funding acquisition; Resources; Software; Supervision; Validation; Visualization; Writing – original draft. Yoshinori Shigematsu: Formal analysis; Project administration; Resources. Kanao Kobayashi: Investigation; Methodology; Project administration; Writing – review & editing.

## Conflict of interest

The authors declare no conflict of interest.

## Compliance with ethical standards

All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

## Approval of the research protocol by an Institutional Reviewer Board

The protocol for this research project has been approved by the individual orally. And this is documented in the clinical record.

## Editorial Comment

### Editorial Comment to Interstitial lung disease induced by apalutamide therapy for castration-resistant prostate cancer: A report of a rare case

Apalutamide, enzalutamide, and abiraterone acetate, which are new androgen receptor axis targeted (ARAT) agents, are currently available to treat metastatic hormone sensitive

## Informed consent

Not applicable.

## Registry and Registration No. of the study/trial

Not applicable.

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prostate cancer (HSPC).<sup>1,2</sup> Due to their excellent efficacy, they are rapidly being introduced in clinical practice in Japan, which is dramatically changing the therapeutic strategy for metastatic HSPC.<sup>2</sup> Major adverse events for these agents, which include fatigue, hypertension, and bone loss, seem to be mild and manageable.<sup>2</sup> Serious adverse events, especially interstitial lung disease (ILD), which is often caused by various anti-cancerous agents, seems to be rarely caused by these ARAT agents.<sup>2,3</sup>

In this issue of *IJU Case Report*, Kirishima et al. reported the case of a patient with possible apalutamide-induced ILD.<sup>3</sup> The patient presented with dyspnea with diffuse bilateral interstitial infiltrates and ground-glass opacities in the upper and lower lobes of the lungs.<sup>3</sup> Infectious diseases, including the novel coronavirus disease 2019 (COVID-19), were ruled out and no other suspect drug was present, and thus, the patient was diagnosed with apalutamide-induced ILD.<sup>3</sup> The patient recovered after apalutamide discontinuation and intravenous steroid therapy with methylprednisolone (0.5 mg/kg/day).<sup>3</sup>

During anti-neoplastic therapy, ILD is one of the most serious events because it hampers the anticancer therapy. The incidence of ILD is higher in Asian patients than in Western patients.<sup>4</sup> When ILD is suspected, any drug that can possibly induce lung injury is usually discontinued promptly, regardless of its severity, and anti-neoplastic therapy is not resumed until the patient's lung injury has improved.<sup>5</sup> Additionally, due to the increased risk of perioperative respiratory complications, post-chemotherapy surgery may be impossible.<sup>5</sup> Furthermore, due to the COVID-19 pandemic, all patients who have respiratory distress and/or bilateral ground-glass opacities on imaging studies need to have COVID-19 ruled out. Excluding COVID-19 infection may cause a delay in the final diagnosis and steroid administration. To obtain the optimal approach for ILD patients during anti-neoplastic therapy, a multidisciplinary approach with a strategy that is carefully formulated by oncologists, pulmonologists, and infectious disease specialists should be recommended.

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## Conflict of interest

The authors declare no conflict of interest.

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